

## REMARKS

Claims 1-9, 11-27, and 27-44 are currently pending. Claims 10 and 28 had been previously cancelled. Applicants, without conceding to the correctness of the Examiner's objections and in the interest of expediting prosecution of the instant application, submit an amended claim set in order to more clearly define the claimed subject matter. Claims 1, 26, 39 to 42, and 44 have been amended. Support for these amendments can be found throughout the specification. Applicants have taken care not to incorporate any new matter into this application by way of this amendment.

### **Rejection under 35 U.S.C. 103(a)**

#### Claims 1, 26, 39 to 42, and 44

The Examiner has rejected claims 1-9, 11-27 and 27-44 under 35 U.S.C. 103(a) as being unpatentable over Stern et al (US 2002/0052928) ("Stern") in view of Kraft et al (US 2002/0147637) ("Kraft") and in further view of Garcia-Chiesa (US 2002/0099723) ("Garcia-Chiesa").

As the Examiner is aware, Applicants addressed the Examiner's objections based on Stern in light of Kraft, in their Communication dated July 10, 2006. Applicants further addressed the Examiner's objection based on Stern in light of Kraft in light of Garcia-Chiesa, in Applicants' Communication dated February 26, 2007. The Examiner has conceded, in both Office Communications following each of the Applicants' Communications, that neither "Stern nor Kraft disclose dynamically create one or more script URLs." The Examiner has considered Applicants' arguments but has upheld the objection in light of Garcia-Chiesa on the basis that Garcia-Chiesa "disclosed dynamically create one or more script URLs" and other reasons which are not entirely clear to Applicants. Applicants, however, in the interest of expediting prosecution, have amended the claims to more clearly define the invention and respectfully traverse the objection for the reasons set out below.

Applicants submit that the instant invention provides for a system, among other things, for locating, selecting, loading, and executing script code that is embedded in HTML code in

order to resolve URLs that are dynamically created from script code by web browsers on a computer. In particular, the URLs that are resolvable by the instant invention do not exist in a format that is readily detectable or readable in a text form. For example, script code contained in HTML code used by web browsers to create a webpage on a computer often provides an algorithm for creating valid URLs by selecting and combining various portions of the text that ultimately form a URL depending on extraneous information. This extraneous information may include information such as the current date, the existence of certain files pre-loaded onto a computer (i.e. "cookies"), or user actions. These URLs that are created upon execution of such algorithms, or script code, are generally referred to in the art as "script URLs". As script URLs do not exist as useable information in static HTML, the techniques of locating and resolving URLs in the references cited by the Examiner, which depend on searching for units of text that are characterizable as URLs, are impracticable for HTML containing script URLs. It should also be noted that while script code is HTML, not all HTML is script code and that would be well appreciated by one skilled in the art, as reflected in the Declaration Under 37 C.F.R. §1.132 of Craig Conboy, submitted on February 26, 2007. Accordingly, even the determination of the existence of script code requires techniques that are not disclosed, taught, or suggested by the cited references. Applicants submit that the cited references, whether taken alone or in combination, fail to teach or lead the skilled technician without undue experimentation to the instant invention.

Applicants respectfully submit that the cited references, taken alone or in combination, do not provide or lead to a system for locating, selecting, loading, and executing script code that is embedded in HTML code in order to resolve URLs that are dynamically created from said script code by web browsers on a computer. In particular, locating and selecting the script code within HTML code is not achieved by any of the cited references. This functionality, as described in the instant application, presents a solution to problems typical to web crawlers that are noted in the instant application, namely that known techniques often fail to detect URLs contained in script code, or do not always extract the entire URL. Applicants further submit that the instant invention is particularly useful and efficient in the context of web crawlers, and any other applications that benefit from the use of web crawlers (e.g. search engines).

In contrast to the instant invention, Applicants respectfully submit that Stern specifically teaches away from the instantly claimed invention in favor of what Stern believes are more simple and less complex solutions. Stern provides a URL resolution system comprising a website crawler that has a limited ability to search script code. At paragraph 0115, with reference to script code, Stern states:

“A special case of collecting links from a Web page is when the page contains script code. In those cases, it is not straightforward to extract the links from the script. One approach would be to create and include in the Crawler parsers for every possible script language. **However, this would require a substantial development and maintenance effort, since there are many Web scripting languages, some of them quite complex. A simpler approach though that this invention implements is to extract from the script anything that looks like a URL, without the need to understand or parse “correctly” the script.**”  
(emphasis added)

Applicants respectfully submit that Stern teaches away from a URL resolution system that can execute script code contained on a webpage. In rejecting this approach, Stern teaches a simpler approach in which the webcrawler extracts from script code “anything that looks like a URL”. The process by which Stern identifies script code URLs is analogous to a text-based keyword search and avoids the necessity of understanding the script code. The approach taught by Stern will inevitably result in two of the disadvantages of the prior art identified in paragraph 0006 of the present application, namely missed URLs in script code and incurred URLs being extracted. Applicants respectfully submit that a system that resolves dynamically constructed links or URLs is not taught or suggested by Stern.

Applicants respectfully submit that Kraft, the teachings of which lie outside of the context of web crawlers, does not disclose an analysis of the script code followed by the execution of only the specific portions of the code that relate to dynamic URL creation (i.e. script code). Detection and location of script URLs significantly increases the speed and efficiency of HTML code analysis. In contrast to the instant invention, Kraft merely discloses the analysis of

script code *after* execution of all of the scripts code contained on a website. This is further highlighted in figure 3 of Kraft, which contains a flow chart in which the step of “Perform Client Scripts” appears before “Analyze Embedded Web Page”. Executing script code of pages prior to the analysis of HTML uses up valuable computer resources and, in fact, results in a similar analysis that is performed by the invention of Stern. Applicants respectfully submit that a system incorporating a script code analysis for the detection and location of script code, prior to execution of said script code, is not taught or suggested by either Stern or Kraft alone or in combination.

With regard to Garcia-Chiesa, Applicants respectfully submit that there is no locating, selecting, loading, and executing of script URLs that are created dynamically using script code by a web browser on a remotely located, or user’s, computer. The HTML code that is searched by the method of Garcia-Chiesa contains only static URLs, and the techniques disclosed thereby are similar to the text searching method of Stern. The dynamic nature of Domino sites described in paragraph 0030 of Garcia-Chiesa refers to the constantly changing nature of Domino sites, and in particular the changing URLs that are referred to therein. At any discrete point in time, however, these web sites contain static HTML. It is over a period of time that the HTML coding that refers to static links will either change itself, or the links contained therein become obsolete due their dynamic nature as determined by the centrally located server. The HTML that is communicated to a web browser on a computer, however, is static and the text of newly created web page addresses, or URLs, contained therein can be searched in a manner similar to that of Stern. In other words, the process by which Garcia-Chiesa resolves URLs is analogous to a text-based keyword search and is not capable of resolving URLs which are only created upon the execution of scripts by the web browser located on a remotely located computer.

The Examiner’s attention is respectfully directed to paragraph 0031 where Garcia-Chiesa states “the present invention generates lists of unique URLs that are marked each of them as static and that each of them, thus the engines do not need to follow ANY non-static link (*sic*).” Accordingly, the non-static links referred to by Garcia-Chiesa are dynamic only because they may become obsolete as the content contained therein will move to a different URL when the content changes. This is an entirely different functionality – and different type of URL – than

what is referred to in the instant invention. The Examiner's attention is also directed to paragraph 0043 of Garcia-Chiesa where the analysis of site contents is described as "reverse engineering of syntax", "transformation of these URLs by parsing/analysis of their syntax", and "techniques [...] aware of the non-materiality of the subtle syntactic differences." The function of Garcia-Chiesa is *not* to execute script to identify URLs that can only be identified dynamically, but rather to identify, by simple text-searching followed by a syntactic analysis of HTML, which static URLs were previously created by the centrally located server.

Finally, the Examiner's attention is respectfully directed again to the Declaration Under 37 C.F.R. §1.132 of Craig Conboy at section 11, submitted on February 26, 2007, wherein Mr. Conboy states that "Garcia-Chiesa is specifically concerned with allowing a web crawler to overcome the problems created through dynamic creation of URLs on Lotus Notes Domino web server. The subject application, on the other hand, is concerned with allowing a web crawler application to resolve script URLs created by scripts embedded on a webpage running in a web browser." Applicants respectfully submit that a system which locates and selects script code to obtain script URLs, which are only created upon the loading and executing of embedded scripts by a web browser in a computer, is not taught or suggested by Stern, Kraft, or Garcia-Chiesa, taken separately or in combination.

Applicants also respectfully reassert and rely on their argument of February 26, 2007 that Garcia-Chiesa is directed towards a specific solution to a problem created by a specific software package, namely that Lotus Notes/Domino generates URLs in a fashion that creates problems for web crawling applications (see paras. 0027, 0028). Accordingly, the teachings in Garcia-Chiesa are not applicable outside of the context of Lotus Domino web servers. As a result, Applicants respectfully submit that there would be no motivation to combine this application with either Kraft or Stern.

Applicants respectfully submit that the teachings of Garcia-Chiesa are not applicable to the technical problem addressed in the subject application and, as a result, it would not be obvious for a skilled technician to combine Garcia-Chiesa with Stern and Kraft. Furthermore, Applicants respectfully submit that even if such a combination were to take place, the result

would not equal the invention disclosed in the subject application, nor would it render the claimed invention obvious to a person of ordinary skill in the art.

Finally, Applicants wish to the other address remarks made by the Examiner in the instant Communication of April 18, 2007. The Examiner alleged that the instant specification indicated that “URL created by the script code, which, the script code, indicated by applicant, on page 1, 0003, is common to use script code to construct page link.” If the Examiner is alleging that the functionality of the present invention is to create script code to construct page links, then the Applicants respectfully disagree. An aspect of the instant invention uses a web crawler to (a) locate and select script code while crawling a website comprising one or more pages; (b) load the portions of the script code that are used to dynamically create URLs; and (c) execute said portions in order to resolve said dynamically created URLs. The common use of page links constructed by script code does not render the claimed invention obvious, but rather demonstrates the need for the present invention.

The Examiner also alleged in the Communication of April 18, 2007 that “within the specification, there’s no intended consideration as to what is ‘dynamically created one or more script URLs’.” Applicants submit that “dynamically created one or more script URLs” are defined and described throughout the specification as filed. In particular, paragraphs 0028 states that “web pages have embedded script code which is used to dynamically create URLs. URLs created by the script code are called script URLs hereinafter.” Further, paragraph 0029 contains examples of how script code is used to create a script URL identifying various pages of a web site.

The Examiner further alleged that Kraft “is double teaching what applicant’s consideration of ‘dynamically create one or more script URLs’ (web pages are made my HTML, and is composed of script code, therefore, the system of Kraft dynamically extract (execute JavaScript algorithm) the URL from the HTML web page, which makes it the script URL).” Applicants refer to and rely on the above arguments, as well as those in their Communication to the Office of July 10, 2006, namely that Kraft does not discuss the locating, selecting, loading,

and executing of only certain specific portions of code that relate to dynamic URL creation as is disclosed in the instant invention.

In summary, with regard to the Examiner's objections based on Stern, Kraft and Garcia-Chiesa, Applicants respectfully submit that none of the references, taken alone or together, disclose, teach or suggest all of the claimed elements of the instant invention for the reasons stated above. None of Stern, Kraft, and Garcia-Chiesa discuss the locating, selecting, loading, and executing of only certain specific portions of the code that relate to dynamic URL creation. Applicants therefore respectfully request withdrawal of the objections under U.S.C. 103(a).

Claims 2-3, 5-9, 11-13, 15-25, 27, 29 to 38, and 43

Claims 2-3, 5-9, 11-13, 15-25, 27, 29 to 38, and 43 depend on claim 1 or claim 26, respectively. Applicants refer the Examiner to their comments above with regard to Stern, Kraft, and Garcia-Chiesa and respectfully request withdrawal of the objections under U.S.C. 103(a) against these claims.

Claims 4 and 14

The Examiner has also rejected claims 4 and 14 under 35 U.S.C. 103(a) as being unpatentable over Stern in view of Kraft in further view of Meyerzon et al (US 2002/014637) ("Meyerzon"). Applicants respectfully traverse and request reconsideration of this rejection. As the Examiner is aware, Applicants addressed the Examiner's objections based on Stern in light of Kraft in further light of Meyerzon in the Communication dated July 10, 2006. Applicants respectfully refer to and rely on the arguments provided in their Communication of July 10, 2006, namely that the combination of subject matter of Stern and Meyerzon and Kraft does not rectify the deficiencies of Stern and Kraft. Any advantages conferred by Meyerzon are completely ancillary to URL resolution and thus irrelevant given the points of distinction between the instant invention, Stern and Kraft, as discussed above with regards to claim 1 on which these claims depend. Withdrawal of this objection under 35 U.S.C. 103(a) is respectfully requested.

## **Conclusion**

Applicants submit that the invention claimed in the present application is patentably distinct from Stern in light of Kraft in further view of Garcia-Chiesa, as well as Stern in view of Kraft in further view of Meyerzon. Applicants believe that all objections of the Examiner contained in the Office Communication of April 18, 2007 have been addressed herein, and Applicants respectfully request early and favorable consideration of the instant application.

Applicants believe that the pending claims are in condition for allowance. If it would be helpful to obtain favorable consideration of this case, the Examiner is encouraged to call and discuss this case with the undersigned.

This constitutes a request for any needed extension of time and an authorization to charge all fees therefore to deposit account No. 19-5117, if not otherwise specifically requested. The undersigned hereby authorizes the charge of any fees created by the filing of this document or any deficiency of fees submitted herewith to be charged to deposit account No. 19-5117.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'James L. Brown', is written over a horizontal line.

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Date: October 18, 2007

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